

DATA MATRIX

PENDIMETHALIN

REGISTRATION STANDARD

EPA REG. NO. 241-245

(3/90)

DATA REQUIREMENT LISTING FOR THE OWNER SUBMISSION METHOD OF SUPPORT

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PRODUCT NAME: PROWL® herbicide Technical

EPA REG. NO./FILE SYMBOL: 241-245

APPLICANT'S NAME AND ADDRESS: American Cyanamid Company, P.O. Box 400, Princeton, NJ 08540

DATA TO SUPPORT: 1985 Pendimethalin Registration Standard

NAME OF ACTIVE INGREDIENT: Pendimethalin

DATA REQUIREMENTS		DATA SATISFYING REQUIREMENT			
Part 158 Guideline Number	Kind of Data Required	Submitted	Date Submitted	Footnote	EPA ID #
<u>TABLE A REQUIREMENTS</u>					
<u>PRODUCT CHEMISTRY</u>					
158.155	Identity of Ingredients and Statement of Composition	Yes	10/85		260401
158.160	Description of Beginning Materials	Yes	10/85		260401
		Yes	4/30/86	a	262636
158.162	Description of Manufacturing Process	Yes	4/30/86		262636
158.165	Description of Formulation Process	Not Required		c	
158.167	Discussion of the Formation of Impurities	Yes	5/11/87	ACC 11/29/88	40194401
		Yes	4/30/86		
		Yes	10/85		260401
		Yes	11/18/85		260473
		Yes	11/25/86		
158.170	Preliminary Analysis	Yes	9/24/80		00046347
		Yes	10/85		
		Yes	5/25/89	a	41111301
158.175	Certification of Limits	Yes	10/85		
		Yes	5/25/89	a	41111301
158.180	Enforcement Analytical Method	Yes	9/74		00106751
		Yes	10/85		260401
		Yes	5/25/89	a	41111301
158.190	<u>PHYSICAL AND CHEMICAL CHARACTERISTICS</u>				
63-2	Color	Yes	10/85		260401
63-3	Physical state	Yes	10/85		260401
63-4	Odor	Yes	10/85		260401
63-5	Melting point	Yes	10/85		260401
63-6	Boiling point	Yes	10/85		260401
63-7	Density, bulk density, or specific gravity	Yes	10/85		260401
63-8	Solubility	Yes	10/85	ACC 11/29/88	260401
63-9	Vapor pressure	Yes	10/85	ACC 11/29/88	260401
		Yes	7/86		264032
63-10	Dissociation constant	Yes	10/85	ACC 11/29/88	260401

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Part 158 Guideline Number	Kind of Data Required	Submitted	Date Submitted	Footnote	EPA ID #
158.190	<u>PRODUCT CHEMISTRY</u> (cont'd)				
	PHYSICAL AND CHEMICAL CHARACTERISTICS (cont'd)				
63-11	Octanol/water partition coefficient	Yes	10/85	ACC 11/29/88	260401
63-12	pH	Yes	10/85	ACC 11/29/88	260401
63-13	Stability	Yes	10/85	ACC 11/29/88	260401
63-14	Oxidizing or reducing action	Yes	10/85	ACC 11/29/88	260401
63-15	Flammability	Yes	10/85	ACC 11/29/88	260401
63-16	Explosibility	Yes	10/85	ACC 11/29/88	260401
63-17	Storage stability	Yes	7/86	ACC 11/29/88	264032
63-18	Viscosity	Yes	10/85	ACC 11/29/88	260401
63-19	Miscibility	Yes	10/85	ACC 11/29/88	260401
63-20	Corrosion characteristics	Yes	7/86	ACC 11/29/88	264032
63-21	Dielectric breakdown voltage	Not Required		c	
	OTHER REQUIREMENTS				
64-1	Submittal of samples	Not Required		c	

FOOTNOTES FOR THE PRODUCT CHEMISTRY SECTION

^a A November 29, 1988 EPA letter (Taylor to Gingher) required additional 61-2 and 62-series data. Series 62 data were submitted on 5/25/89; we await an Agency reply. The 61-2 data has already been submitted, as mentioned in our 5/25/89 letter.

^c Data not required under pendimethalin R.S..

ACC=Considered acceptable by EPA.

RS=Registration Standard.

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Part 158 Guideline Number	Kind of Data Required	Submitted	Date Submitted	Footnote	EPA ID #
158.240	<u>RESIDUE CHEMISTRY</u>				
171-2	CHEMICAL IDENTITY	Yes	9/74		00106751
		Yes	10/85	d	260401
171-3	DIRECTIONS FOR USE	Yes	10/85	d	260401
171-4	NATURE OF THE RESIDUE (Metabolism)				
	-Plant	Yes	12/21/74	e	00029803
		Yes	4/29/80		00031219
		Yes	2/9/76		00039535
		Yes	2/9/76		00039537
		Yes	9/27/74		00046278
		Yes	9/27/74		00046280
		Yes	2/9/76		00051963
		Yes	2/9/76		00051965
		Yes	4/6/78		00058478
		Yes	8/25/80		00067293
		Yes	1/22/81		00071121
		Yes	5/8/81		00074621
		Yes	1/7/82		00093698
		Yes	9/27/74		00106779
		Yes	9/27/74		00106779
		Yes	10/5/78		00106795
		Yes	9/21/79		00108317
		Yes	2/9/76		00109915
		Yes	4/20/82		GS0187-002
		Yes	4/20/82		114647-1
	-Livestock	Yes	8/25/80	e	00067288
		Yes	8/25/80		00067289
		Yes	9/27/74		00046293
		Yes	9/27/74		00046275
		Yes	1/22/81		00071124

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Part 158 Guideline Number	Kind of Data Required	Submitted	Date Submitted	Footnote	EPA ID #
158.240	RESIDUE CHEMISTRY (cont'd)				
171-4	RESIDUE ANALYTICAL METHODS				
	-Plant Residues	Yes	9/12/78	g	00019004
		Yes	9/27/74		00023780
		Yes	9/27/74		00023781
		Yes	9/27/74		00023782
		Yes	2/13/80		00025820
		Yes	2/13/80		00025821
		Yes	2/13/80		00025822
		Yes	2/13/80		00025827
		Yes	2/13/80		00025828
		Yes	2/13/80		00025831
		Yes	2/13/80		00025832
		Yes	2/13/80		00025833
		Yes	2/13/80		00025837
		Yes	1974		00029018
		Yes	1974		00029020
		Yes	4/29/80		00031212
		Yes	4/29/80		00031214
		Yes	11/14/75		00041898
		Yes	11/14/75		00041901
		Yes	11/14/75		00041904
		Yes	2/9/76		00039519
		Yes	2/9/76		00039520
		Yes	2/9/76		00039522
		Yes	2/9/76		00039526
		Yes	2/9/76		00039527
		Yes	2/9/76		00039528
		Yes	2/9/76		00051958
		Yes	2/9/76		00051959
		Yes	2/9/76		00051960
		Yes	2/9/76		00051961
		Yes	2/9/76		00051962
		Yes	2/9/76		00052558
		Yes	6/1/76		00058835

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158.240	<u>RESIDUE CHEMISTRY</u> (cont'd)				
171-4	RESIDUE ANALYTICAL METHOD (cont'd)				
	-Plant Residues, cont.	Yes	2/8/77		00070962
		Yes	1/22/81		00071120
		Yes	11/20/75		00072810
		Yes	2/9/76		00072822
		Yes	2/9/76		00072823
		Yes	2/9/76		00072824
		Yes	2/9/76		00072825
		Yes	1974		00106752
		Yes	1/6/78		00106791
		Yes	9/21/79		00106808
		Yes	10/29/79		00106830
		Yes	4/29/87		40185103
	-Animal Residues	Yes	9/27/74	h	00023796
		Yes	6/1/76		00058835
171-4	STORAGE STABILITY DATA	Yes	1/22/81		00071129
		Yes	4/30/86		262637
		Yes	1/29/87		40063201
		Yes	3/1/88		40535101
171-4	MAGNITUDE OF THE RESIDUE				
	Crops:				
	-Potato	Yes	10/5/78		00106797
	-Soybean	Yes	2/13/80		00025818
		Yes	12/27/74		00029801
		Yes	11/14/75		00041897
		Yes	4/29/87	j	40185101
		Yes	7/86		264033
	-Soybean, Forage and Hay	Yes	2/13/86	i	00025818
		Yes	12/21/74		00029801

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Part 158 Guideline Number	Kind of Data Required	Submitted	Date Submitted	Footnote	EPA ID #
158.240	RESIDUE CHEMISTRY (cont'd)				
171-4	MAGNITUDE OF THE RESIDUE (cont'd)				
	-Corn, Grain	Yes	4/29/87	j	40185102
		Yes	9/27/74		00023786
		Yes	9/27/74		00023787
		Yes	9/27/74		00023788
		Yes	9/27/74		00023789
		Yes	9/27/74		00023790
		Yes	9/27/74		00023791
		Yes	9/27/74		00023792
		Yes	9/27/74		00023794
		Yes	9/27/74		00023795
		Yes	9/27/74		00023793
		Yes	1974		00029029
		Yes	8/30/79		00030697
		Yes	1/7/82		00093697
		Yes	5/11/78		00106820
	-Rice, Grain	Yes	8/25/80		00067283
		Yes	1/22/81		00071120
	-Sorghum, Grain	Yes	1/6/78		00106791
		Yes	8/14/79		00106807
		Yes	9/14/82		00114313
	-Corn, Forage and Fodder	Yes	9/27/74	k	00023786
		Yes	9/27/74		00023787
		Yes	9/27/74		00023788
		Yes	9/27/74		00023789
		Yes	9/27/74		00023790
		Yes	9/27/74		00023791
		Yes	9/27/74		00023792
		Yes	9/27/74		00023793
		Yes	9/27/74		00023794
		Yes	9/27/74		00023795
		Yes	1974		00029028
		Yes	1974		00029029
		Yes	1/6/82		00093697
		Yes	5/11/78		00106820

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Part 158 Guideline Number	Kind of Data Required	Submitted	Date Submitted	Footnote	EPA ID #
158.240	RESIDUE CHEMISTRY (cont'd)				
171-4	MAGNITUDE OF RESIDUE (cont'd)				
	-Sorghum, Forage and Fodder	Yes	1/6/78	k	00106791
		Yes	9/14/82		00114313
		Yes	7/31/79		00106807
	-Cottonseed	Yes	9/11/78	j	00018997
		Yes	1974		00106752
		Yes	9/20/79		00106829
	-Peanuts	Yes	4/29/80	j	00031215
		Yes	4/29/80		00031216
		Yes	4/29/80		00031217
		Yes	2/9/76		00106785
	-Peanut, Forage	Yes	2/9/76		00106785
		Yes	4/20/80		GS0187-002
	-Peanut, Hay	Yes	2/9/76		00106785
		Yes	4/20/80		GS0187-002
	-Sunflower Seeds	Yes	6/11/80	j	00134355
	Potable Water	Not Required		m	
	Fish	Yes	9/27/74	n	00046293
		Yes	1/22/81		00071124
	Irrigated Crops	Not Required		o	
	-field trials	Not Required		o	
	-Processed Food/feed	Reserved			
	Food Handling	Not Required		m	

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Part 158 Guideline Number	Kind of Data Required	Submitted	Date Submitted	Footnote	EPA ID #
158.240	RESIDUE CHEMISTRY (cont'd)				
171-4	MAGNITUDE OF RESIDUE (cont'd)				
	Meat/Milk/Poultry/Eggs				
	-Cattle	Yes	8/25/80	e	00067290
	-Milk	No		e	
	-Hogs	No		p	
	-Goats	No		e	
	-Poultry	No		q	
	-Eggs	No		q	
	Tobacco	Yes	10/27/83	e	00129937
171-13	SUBMITTAL OF ANALYTICAL REFERENCE STANDARD	Not Required		c	

FOOTNOTES FOR THE RESIDUE CHEMISTRY SECTION^c Data not required under pendimethalin R.S..^d Please see data submitted for Part 158.155 (Product Chemistry).

^e Additional data due under the pendimethalin R.S. However, Cyanamid disagrees with these requirements and asked EPA for a reevaluation of the situation on June 28, 1985. Subsequently, an EPA/Cyanamid meeting on February 5, 1986, and Steller to Taylor letters dated May 14, 1986 and February 4, 1987 have addressed the topics of plant and animal metabolism/residue studies. Tobacco is further addressed in our letter of July 25, 1986 (Steller to Taylor). An EPA letter, dated May 10, 1989 states that additional plant and animal data are still needed for reregistration; animal and plant metabolism studies are due 11/15/90 and processing studies by 5/15/91. We disagree with this and in a June 13, 1989 letter (Gingher to Taylor) ask for a meeting to resolve these issues.

^g Additional data may be required under the RS. No request for additional data has been received to date.

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R.S.= Registration Standard

(footnotes are continued on the next page)

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FOOTNOTES FOR THE RESIDUE CHEMISTRY SECTION, CONTINUED

^h Additional data may be required under the pendimethalin R.S. if new metabolites are detected. No additional data have been requested to date.

ⁱ Additional data on soybean forage and hay were required. Data were submitted on April 29, 1987. Also see footnote e.

^j Additional processing data were required under the pendimethalin R.S.; it was agreed that corn grain would be examined by a more sensitive analytical method in lieu of processing and that the results would be extrapolated to other commodities (W. Steller to R. Taylor letters dated June 28, 1985, May 14, 1986, and February 4, 1987). These studies were submitted on April 29, 1987. Also see footnote e.

^k The R.S. indicates that additional metabolism and field residue data may be required if new metabolites are detected. No request for such work has been received to date.

^l Additional metabolism and processing data may be required if new metabolites are detected. This commodity was addressed in our letters (Steller to Taylor) of June 28, 1985 and May 14, 1986; no further response has been received to date. Also see footnote j.

^m This use has not been proposed for pendimethalin, thus this is not required under the R.S.

ⁿ Study not required since the label restriction mentioned in the R. J. Taylor letter of April 15, 1986 has been taken.

^o Not required since pendimethalin is not applied directly to water, as per 40 CFR 158.125 - 171-4, footnote 9.

^p Swine metabolism data may be required under the pendimethalin R.S.; we have not received a request for this data to date.

^q If any new metabolites of concern are detected, a poultry feeding study may be necessary. No request for such work has been received to date.

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Part 158 Guideline Number	Kind of Data Required	Submitted	Date Submitted	Footnote	EPA ID #
158.290	<u>ENVIRONMENTAL FATE</u>				
	DEGRADATION STUDIES - LAB				
161-1	Hydrolysis	Yes	1974		00106777
161-2	Photodegradation in Water	Yes	10/85		260402
161-3	Photodegradation in Soil	Yes	10/85		260402
161-4	Photodegradation in Air	Not Required		c	
	METABOLISM STUDIES - LAB				
162-1	Aerobic Soil	Yes	4/29/87		40185104
162-2	Anaerobic Soil	Yes	4/29/87	s	40185105
162-3	Anaerobic Aquatic	Yes	3/7/84	cc	252623
		Yes	11/29/84		255814
		Yes	9/1/88		40813501
162-4	Aerobic Aquatic	Not Required		t	
	MOBILITY STUDIES				
163-1	Leaching and Adsorption/Desorption	Yes	10/85		260402
	Volatility:				
163-2	-Laboratory	Yes	10/85		260402
163-3	-Field	No		u	

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158.290	<u>ENVIRONMENTAL FATE</u>				
	DISSIPATION STUDIES - FIELD				
164-1	Soil	Yes Yes	1973 1974	b	29035, 29032, 106782 46281, 46295-A,C,D, E,F,I,K,L,M,N
164-2	Aquatic (Sediment)	No		r	
164-3	Forestry	Not Required		c	
164-4	Combination and Tank Mixes	Not Required		c	
164-5	Soil, Long-Term	Yes	5/17/79	ACC 4/15/86	238510
	ACCUMULATION STUDIES				
165-1	Rotational Crops (Confined)	Yes		w	00046279, 00046283
165-2	Rotational Crops (Field)	Yes		x	00106777-C,D,E,F,G, H,I,J,K,L,M, 246583, 248326, 070600, 094474, 097433, 097434, 070293
165-3	Irrigated Crops	Not Required		y	
165-4	Fish	Yes	1/30/86, 4/15/86		262387
165-5	Aquatic Non-Target Organisms	Not Required		z	
158.390	<u>REENTRY EXPOSURE</u>	Not Required		c	

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FOOTNOTES FOR ENVIRONMENTAL FATE AND REENTRY EXPOSURE SECTIONS

- b Additional data due under pendimethalin R.S. This was addressed in the EPA (Taylor to Galley) letter dated April 15, 1986 and was still found to be lacking. American Cyanamid continues to disagree with this assessment as discussed in our letters of July 25, 1986 (Steller to Taylor) and September 12, 1986 (Gingher to Taylor). A November 29, 1988 EPA letter (Taylor to Steller) indicates that our discussion has been sent to the proper branch for consideration; we await a decision.
- c Data not required under pendimethalin R.S..
- f We have proposed combining this work with Study 72-7, as requested in our (Steller to Taylor) letter of July 25, 1986. A proposed protocol for the combined study was submitted September 12, 1986. A November 29, 1988 EPA letter (Taylor to Gingher) stated that the proposed combined protocol has been sent to the proper branches for comment; a May 10, 1989 EPA letter apparently from EEB only) rejected the proposed protocol and suggested that a different approach be taken. In an August 15, 1989 letter, we again stated our position (also see footnote dd in Fish & Wildlife section) and asked for a meeting with both Branches.
- s We have submitted a study even though the R.S. states that data are not required if an anaerobic aquatic metabolism study is done.
- t Study not required; EPA has agreed with American Cyanamid that this study is not needed (please see EPA letter from R. Taylor dated April 15, 1986).
- u Study requirement is deferred until results of the laboratory volatility study are reviewed (please see R. J. Taylor letter dated April 15, 1986).
- w Data are due under the pendimethalin R.S., however we believe that adequate data have already been submitted. Please see footnote x for discussion.
- x Data are due under the pendimethalin R.S. However, Cyanamid believes we have already fulfilled the requirements for 165-1 and 165-2 as was mentioned in our letter to EPA on July 15, 1985. At that time, we requested verification that we do not need to generate additional data. In addition, another letter, dated March 24, 1987, was sent reviewing this topic and asking for consideration of data submitted to RCB to fulfill these requirements. A November 29, 1988 EPA letter (Taylor to Gingher) indicates that our discussion has been sent to the proper branch for consideration; we await a decision.
- y This study requirement is withdrawn unless a significant degradate is identified in the anaerobic aquatic metabolism study (R. J. Taylor letter dated April 15, 1986). We have not received any further communication on this work.
- z Under the pendimethalin R.S., additional data may be required, depending on the results from other fate studies. No request has been received to date.
- cc The R. J. Taylor letter, dated April 15, 1986, stated that more degradate identification is needed. We agreed to reconduct the study in the W. Steller to R. Taylor letter, dated July 25, 1986. The study was submitted on September 1, 1988; we have not received a review of this study to date.

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Part 158 Guideline Number	Kind of Data Required	Submitted	Date Submitted	Footnote	EPA ID #
158.340	<u>TOXICOLOGY</u>				
	ACUTE TESTING				
81-1	Acute Oral Toxicity - Rat	Yes Yes	1972 9/27/74		00026657
81-2	Acute Dermal Toxicity	Yes Yes	1972 9/27/74		00026657 00072802
81-3	Acute Inhalation Toxicity - Rat	Yes	12/21/73		00073342
81-4	Primary Eye Irritation	Yes Yes	1972 9/27/74		00026657 00072802
81-5	Primary Skin Irritation	Yes	1973		00026663
81-6	Dermal Sensitization	Yes	10/85	ACC 11/29/88	260403
81-7	Acute Delayed Neurotoxicity - Hen	Not Required		c	
	SUBCHRONIC TESTING				
82-1	90-Day Feeding Study - Rodent	Yes	1/30/86	ACC 11/29/88	261305
	90-Day Feeding Study - Nonrodent (Dog)	Yes	2/26/81		00058657
82-2	21-Day Dermal	Yes	1973		00026663
82-3	90-Day Dermal	Not Required		c	
82-4	90-Day Inhalation - Rat	Not Required		c	
82-5	90-Day Neurotoxicity - Hen/Mammal	Not Required		c	

DATA REQUIREMENT LISTING FOR THE OWNER SUBMISSION METHOD OF SUPPORT

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PRODUCT NAME: PROWL® herbicide Technical

EPA REG. NO./FILE SYMBOL: 241-245

APPLICANT'S NAME AND ADDRESS: American Cyanamid Company, P.O. Box 400, Princeton, NJ 08540

DATA TO SUPPORT: 1985 Pendimethalin Registration Standard

NAME OF ACTIVE INGREDIENT: Pendimethalin

DATA REQUIREMENTS		DATA SATISFYING REQUIREMENT			
Part 158 Guideline Number	Kind of Data Required	Submitted	Date Submitted	Footnote	EPA ID #
158.340	<u>TOXICOLOGY (cont'd)</u>				
	CHRONIC TESTING				
83-1	Chronic Feeding - Rat	Yes	4/20/87	ee	40174401
	Chronic Feeding - Dog	Yes	2/26/81		00058657
83-2	Oncogenicity Study - Rat	Yes	4/20/87	ee	40174401
	Oncogenicity Study - Mouse	Yes	11/21/88	ee	40909901
83-3	Teratogenicity - Rat	Yes	1/11/80		00025752
	Teratogenicity - Rabbit	Yes	10/27/82		00117444
83-4	Reproduction, 3-Generation	Yes	9/27/74		00040304
	MUTAGENICITY TESTING				
84-2	Gene Mutation	Yes	6/77		00067519
		Yes	10/85	ACC 11/29/88	260403
84-2	Structural Chromosomal Aberration	Yes	1973		00026673
		Yes	10/85	ACC 11/29/88	260403
84-4	Other Genotoxic Effects				
	Gene Mutation/Mammalian Cell Culture	Yes	10/85	ACC 11/29/88	260403
	DNA Damage/Mammalian Cell Culture	Yes	10/85	ACC 11/29/88	260403
	SPECIAL TESTING				
85-1	General Metabolism	Yes	9/27/74		00046275
85-2	Dermal Penetration	Not Required		bb	
86-1	Domestic Animal Safety	Not Required		c	

DATA REQUIREMENT LISTING FOR THE OWNER SUBMISSION METHOD OF SUPPORT

PRODUCT NAME: PROWL® herbicide Technical

(3/90)

EPA REG. NO./FILE SYMBOL: 241-245

APPLICANT'S NAME AND ADDRESS: American Cyanamid Company, P.O. Box 400, Princeton, NJ 08540

DATA TO SUPPORT: 1985 Pendimethalin Registration Standard

NAME OF ACTIVE INGREDIENT: Pendimethalin

FOOTNOTES FOR THE TOXICOLOGY SECTION

^c Data not required under pendimethalin R.S.

^{bb} Data requirement reserved under pendimethalin R.S.

^{ee} An August 25, 1989 EPA letter not concerning the R.S. (from Registration Division concerning pending tolerances) indicated that certain data in the chronic mouse and rat studies needed to be reformatted. The reformatted data were submitted on November 8, 1989; additional copies were sent, as requested, on March 23, 1990.

ACC = Considered acceptable to EPA (date of EPA letter).

R.S. = Registration Standard.

DATA REQUIREMENT LISTING FOR THE OWNER SUBMISSION METHOD OF SUPPORT

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PRODUCT NAME: PROWL® herbicide Technical

EPA REG. NO./FILE SYMBOL: 241-245

APPLICANT'S NAME AND ADDRESS: American Cyanamid Company, P.O. Box 400, Princeton, NJ 08540

DATA TO SUPPORT: 1985 Pendimethalin Registration Standard

NAME OF ACTIVE INGREDIENT: Pendimethalin

DATA REQUIREMENTS		DATA SATISFYING REQUIREMENT			
Part 158 Guideline Number	Kind of Data Required	Submitted	Date Submitted	Footnote	EPA ID #
158.490	<u>WILDLIFE AND AQUATIC ORGANISMS</u>				
	AVIAN AND MAMMALIAN TESTING				
71-1	Avian Oral LD ₅₀	Yes	1976		00059739
71-2	Avian Dietary LC ₅₀				
	Upland Gamebird	Yes	1973		00026675
	Waterfowl	Yes	1973		00026674
71-3	Wild Mammal Toxicity	Not Required		c	
71-4	Avian Reproduction	Not Required		c	
71-5	Simulated/Actual Field Testing				
	-Mammals & Birds	Not Required		c	
	AQUATIC ORGANISM TESTING				
72-1	Acute LC ₅₀ Freshwater Fish				
	-Warmwater	Yes	1973		00106764
		Yes	11/14/75		00037927
		Yes	10/28/83		00131773
	-Coldwater	Yes	1973		00106764
		Yes	11/14/75		00037927
72-2	Acute LC ₅₀ - Freshwater Invertebrate -TGA1	Yes	1976		00059738
		Yes	1/22/71		00071123
	-TEP	Yes	10/85	ACC 11/29/88	260404

DATA REQUIREMENT LISTING FOR THE OWNER SUBMISSION METHOD OF SUPPORTO

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PRODUCT NAME: PROWL® herbicide Technical

EPA REG. NO./FILE SYMBOL: 241-245

APPLICANT'S NAME AND ADDRESS: American Cyanamid Company, P.O. Box 400, Princeton, NJ 08540

DATA TO SUPPORT: 1985 Pendimethalin Registration Standard

NAME OF ACTIVE INGREDIENT: Pendimethalin

DATA REQUIREMENTS		DATA SATISFYING REQUIREMENT			
Part 158 Guideline Number	Kind of Data Required	Submitted	Date Submitted	Footnote	EPA ID #
158.490	<u>WILDLIFE AND AQUATIC ORGANISMS (cont'd)</u>				
72-3	Acute LC ₅₀ - Estuarine and Marine Organisms				
	-Oyster - TGA1	Yes	10/28/83		00131772
	- TEP	Yes	10/28/83	z	00131772
	-Shrimp - TGA1	Yes	10/28/83		00131775
	- TEP	Yes	10/28/83	z	00131775
	-Marine Fish. - TGA1	Yes	10/28/83		00131774
	- TEP	Yes	10/28/83	z	00131774
72-4	Aquatic Invertebrate Life-Cycle	Yes	4/13/82	z	00100504 247299
72-5	Fish Life-Cycle	Yes	9/8/77	z	00037940
72-6	Aquatic Organism Accumulation	Reserved		z	
72-7	Simulated/Actual Field Testing				
	-Aquatic Organisms	No		dd	

FOOTNOTES FOR THE WILDLIFE AND AQUATIC ORGANISMS SECTION^c Data not required under pendimethalin R.S.^z Under the pendimethalin R.S., additional data may be required, depending on the results from other fate studies. No request for such work has been received to date.^{dd} We have agreed to conduct a study for the rice use; we proposed to combine it with study 164-2 in our (Steller to Taylor) letter of July 25, 1986. A proposed protocol for the combined study was submitted September 12, 1986. A November 29, 1988 EPA letter (Taylor to Gingham) indicated the proposed protocol had been sent to the proper branches for comments. An EPA letter, dated May 10, 1989 (reviews apparently only from EEB) rejected the protocol and suggested another approach be taken. In an August 15, 1989 letter, we responded on this topic in detail, submitted another proposed protocol and requested a meeting with both Branches.

ACC = Considered acceptable by EPA (date of EPA letter).

R.S. = Registration Standard.

DATA REQUIREMENT LISTING FOR THE OWNER SUBMISSION METHOD OF SUPPORT

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(6/89)PRODUCT NAME: PROWL[®] herbicide Technical

EPA REG. NO./FILE SYMBOL: 241-245

APPLICANT'S NAME AND ADDRESS: American Cyanamid Company, P.O. Box 400, Princeton, NJ 08540

DATA TO SUPPORT: 1985 Pendimethalin Registration Standard

NAME OF ACTIVE INGREDIENT: Pendimethalin

DATA REQUIREMENTS		DATA SATISFYING REQUIREMENT			
Part 158 Guideline Number	Kind of Data Required	Submitted	Date Submitted	Footnote	EPA ID #
158.590	<u>NONTARGET INSECT TESTING</u>				
	POLLINATORS				
141-1	Honey Bee Acute Contact LD ₅₀	Yes	9/27/74		00099890
141-2	Honey Bee-Toxicity of Residue on Foliage	Not Required		c	
141-4	Honey Bee Subacute Feeding Study	Reserved		bb	
141-5	Field Testing for Pollinators	Not Required		c	
	AQUATIC INSECTS				
142-1	Acute Toxicity to Aquatic Insects	Reserved		bb	
142-2	Aquatic Insect Life-Cycle Study	Reserved		bb	
142-3	Simulated or Actual Field Testing for Aquatic Insects	Reserved		bb	
	PREDATORS AND PARASITES				
143-1		Reserved		bb	
143-2		Reserved		bb	
143-3		Reserved		bb	

FOOTNOTES FOR THE NONTARGET INSECT TESTING SECTION

c Data not required under pendimethalin R.S..

bb Data requirement reserved under pendimethalin R.S.

ACC=Considered acceptable by EPA.

RS=Registration Standard.

DATA REQUIREMENT LISTING FOR THE OWNER SUBMISSION METHOD OF SUPPORT

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(6/89)PRODUCT NAME: PROWL[®] herbicide Technical

EPA REG. NO./FILE SYMBOL: 241-245

APPLICANT'S NAME AND ADDRESS: American Cyanamid Company, P.O. Box 400, Princeton, NJ 08540

DATA TO SUPPORT: 1985 Pendimethalin Registration Standard

NAME OF ACTIVE INGREDIENT: Pendimethalin

DATA REQUIREMENTS		DATA SATISFYING REQUIREMENT			
Part 158 Guideline Number	Kind of Data Required	Submitted	Date Submitted	Footnote	EPA ID #
<u>PRODUCT CHEMISTRY</u>		<u>TABLE B REQUIREMENTS (MUP)</u>			
158.155	Identity of Ingredients and Statement of Composition	Yes	9/74		00106751
158.160	Description of Beginning Materials	Yes	9/74		00106751
158.162	Description of Manufacturing Process	Yes	1986		262636
158.165	Description of Formulation Process	Not Required			
158.167	Discussion of Formation of Impurities	Yes	5/11/87		
		Yes	4/30/86		
		Yes	10/85		260401
		Yes	11/18/85		260473
		Yes	11/25/86		40194401
158.170	Preliminary Analysis	Yes	9/24/80		00046347
		Yes	10/85		
		Yes	5/25/89		41111301
158.175	Certification of Limits	Yes	6/24/80		00046347
		Yes	10/85		
		Yes	5/25/89		41111301
158.180	Enforcement Analytical Method	Yes	9/74		000106751
		Yes	10/85		260401
		Yes	5/25/89		41111301
158.190	PHYSICAL AND CHEMICAL CHARACTERISTICS				
63-2	Color	Yes	1974		GS0187-001
63-3	Physical state	Yes	1974		GS0187-001
63-4	Odor	Yes	1974		GS0187-001
63-5	Melting point	Yes	1974		GS0187-001
63-6	Boiling point	Yes	1974		GS0187-001
63-7	Density, bulk density, or specific gravity	Yes	1974		GS0187-001
63-12	pH	Yes	10/85		260401
63-14	Oxidizing or reducing action	Yes	10/85		260401

DATA REQUIREMENT LISTING FOR THE OWNER SUBMISSION METHOD OF SUPPORT

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PRODUCT NAME: PROWL® herbicide Technical

EPA REG. NO./FILE SYMBOL: 241-245

APPLICANT'S NAME AND ADDRESS: American Cyanamid Company, P.O. Box 400, Princeton, NJ 08540

DATA TO SUPPORT: 1985 Pendimethalin Registration Standard

NAME OF ACTIVE INGREDIENT: Pendimethalin

DATA REQUIREMENTS		DATA SATISFYING REQUIREMENT			
Part 158 Guideline Number	Kind of Data Required	Submitted	Date Submitted	Footnote	EPA ID #
<u>TABLE B REQUIREMENTS (MUP), CONT.</u>					
158.190	PHYSICAL AND CHEMICAL CHARACTERISTICS, CONT.				
63-15	Flammability	Yes	10/85		260401
63-16	Explosibility	Yes	10/85		260401
63-17	Storage stability	Yes	7/86		264032
63-18	Viscosity	Yes	10/85		260401
63-19	Miscibility	Yes	10/85		260401
OTHER REQUIREMENTS					
64-1	Submittal of samples	Not Required		c	
158.340	<u>TOXICOLOGY</u>				
ACUTE TESTING					
81-1	Acute Oral Toxicity - Rat	Yes	1972		00026657
		Yes	9/27/74		00072802
81-2	Acute Dermal Toxicity	Yes	1972		00026657
		Yes	9/27/74		00072802
81-3	Acute Inhalation Toxicity - Rat	Yes	12/21/73		00073342
81-4	Primary Eye Irritation	Yes	1972		00026657
		Yes	9/27/74		00072802
81-5	Primary Skin Irritation	Yes	1973		0002663
81-6	Dermal Sensitization	Yes	10/85		260403
81-7	Acute Delayed Neurotoxicity - Hen	Not Required		c	

DATA REQUIREMENT LISTING FOR THE OWNER SUBMISSION METHOD OF SUPPORT

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PRODUCT NAME: PROWL® herbicide Technical

EPA REG. NO./FILE SYMBOL: 241-245

APPLICANT'S NAME AND ADDRESS: American Cyanamid Company, P.O. Box 400, Princeton, NJ 08540

DATA TO SUPPORT: 1985 Pendimethalin Registration Standard

NAME OF ACTIVE INGREDIENT: Pendimethalin

FOOTNOTES FOR TABLE B (PRODUCT CHEMISTRY AND TOXICOLOGY SECTIONS)

^c Data not required under pendimethalin R.S..

ACC=onsidered acceptable by EPA.

RS=Registration Standard.

-END OF PENDIMETHALIN DATA MATRIX-

DATA MATRIX FOR PROWL^(R) herbicide
EPA REG. NO. 241-243

APPLICANT'S NAME AND ADDRESS: AMERICAN CYANAMID COMPANY, AGRICULTURAL RESEARCH DIVISION
DATA TO SUPPORT: BASIC FORMULATION P.O. BOX 400
NAME OF ACTIVE INGREDIENT: PENDIMETHALIN PRINCETON, NJ 08543-0400

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DATA REQUIREMENTS		DATA SATISFYING REQUIREMENT			
Part 158/ Guideline Number	Data Required	Submitted	Date Submitted	Refers to Footnote in 40 CFR 158	MRID or Accession No.
<u>158.155-190</u>	<u>PRODUCT CHEMISTRY</u>				
61-1	Product Identity and Disclosure of ingredients	Yes	8/6/87 3/14/85 9/27/74		00094244
61-2	Description of Beginning Materials & Manufacturing Proc.	Yes	3/30/77 9/27/74		00096052 00094244
61-3	Discussion of formation of Impurities	Yes	9/27/74		00094244
62-1	Preliminary analysis	Yes	9/27/74		00094244
62-2	Certification of limits	Yes	8/6/87 3/14/85 9/27/74		00094233
62-3	Analytical methods for enforcement limits	Yes	9/27/74		00094244
<u>158.155-190</u>	<u>PHYSICAL AND CHEMICAL CHARACTERISTICS</u>				
63-2	Color	Yes	9/27/74		00094233
63-3	Physical state	Yes	9/27/74		00094233
63-4	Odor	Yes	9/27/74		00094233
63-5	Melting point	No		See (1)	
63-6	Boiling point	No		See (2)	
63-7	Density, bulk density, or specific gravity	Yes	9/27/74		00094233
63-8	Solubility	No		See (3)	
63-9	Vapor pressure	No		See (4)	

DATA MATRIX FOR PROWL^(R) herbicide
EPA Reg. No. 241-243

APPLICANT'S NAME AND ADDRESS: AMERICAN CYANAMID COMPANY, AGRICULTURAL RESEARCH DIVISION
DATA TO SUPPORT: BASIC FORMULATION P.O. BOX 400
NAME OF ACTIVE INGREDIENT: PENDIMETHALIN PRINCETON, NJ 08543-0400

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DATA REQUIREMENTS		DATA SATISFYING REQUIREMENT			
Part 158/ Guideline Number	Data Required	Submitted	Date Submitted	Refers to Footnote in 40 CFR 158	MRID or Accession No.
	<u>PRODUCT CHEMISTRY, CONT.</u>				
63-10	Dissociation constant	No		See (5)	
63-11	Octanol/water partition coefficient	No		See (6)	
63-12	pH	Yes	8/6/87 3/14/85		
63-13	Stability	No		See (7)	
63-14	Oxidizing/Reducing reaction	No		See (8)	
63-15	Flammability	Yes	9/27/74		00094233
63-16	Explosability	No		See (9)	
63-17	Storage Stability	Yes	9/27/74		00094244
63-18	Viscosity	Yes	5/6/87	See (10)	Pending
63-19	Miscibility	Yes	9/27/74		00094233
63-20	Corrosion Characteristics	Yes	7/28/86		
63-21	Dielectric Breakdown	No		See (11)	

DATA MATRIX FOR PROWL^(R) herbicide
EPA Reg. No. 241-243

APPLICANT'S NAME AND ADDRESS: AMERICAN CYANAMID COMPANY, AGRICULTURAL RESEARCH DIVISION
DATA TO SUPPORT: BASIC FORMULATION P.O. BOX 400
NAME OF ACTIVE INGREDIENT: PENDIMETHALIN PRINCETON, NJ 08543-0400

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2/16/90

DATA REQUIREMENTS		DATA SATISFYING REQUIREMENT			
Part 158/ Guideline Number	Data Required	Submitted	Date Submitted	Refers to Footnote in 40 CFR 158	MRID or Accession No.
<u>158.340</u>	<u>TOXICOLOGY</u>				
81-1	Acute Oral Toxicity	Yes	10/27/83 9/27/74		00132376 00094233
81-2	Acute Dermal Toxicity	Yes	10/27/83 5/17/79 9/27/74		00132376 00238510 00094233
81-3	Acute Inhalation Toxicity-Rat	Yes	1/31/86 10/27/83 9/27/74		00261353 00132376 00094233
81-4	Eye Irritation-Rabbit	Yes	10/27/83 9/27/74		00132376 00094233
81-5	Dermal Irritation	Yes	10/27/83 9/27/74		00132376 00094233
81-6	Dermal Sensitization	Yes	2/11/86		00261505

DATA MATRIX FOOTNOTES

- (1) Data not required on end-use product (See CFR 158.190, 63-5).
- (2) Data not required on end-use product (See CFR 158.190, 63-6).
- (3) Data not required on end-use product (See CFR 158.190, 63-8).
- (4) Data not required on end-use product (See CFR 158.190, 63-9).
- (5) Data not required on end-use product (See CFR 158.190, 63-10).
- (6) Data not required on end-use product (See CFR 158.190, 63-11).
- (7) Data not required on end-use product (See CFR 158.190, 63-13).
- (8) Data not submitted because formulation does not contain and oxidizing or reducing agent (See CFR 158.190, Note 5).
- (9) Data not required because product is not potentially explosive (See CFR 158.190, 63-16, Note 7).
- (10) The viscosity of PROWL herbicide is 5.7 cP at 24 degrees C.
- (11) Data not submitted because end-use product is not to be used around electrical equipment (See CFR 158.190, 63-21, note 10).

(R) Registered Trademark of American Cyanamid Company